PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(parlee01.005)

Applicant:	Robert Parlee	**Confirmation No.:**	5824
Application No:	10/671,078	**Group Art Unit:**	1732
Filed:	9/25/03	**Examiner:**	Allan R. Kuhns

Title: *Techniques for making carbon fiber bicycle frames*

Commissioner for Patents
Alexandria, VA 22313-1450

Response to a non-final Office action under 37 C.F.R. 1.111

Summary of the prosecution

A second RCE in the above patent application was filed in the above patent application on April 4, 2007. The claims at issue are claims 20, 23, and 25-31. In the *Submission* that accompanied the RCE, the claims were amended to specifically set forth that the molds used in the invention have abutting parting claims. That terminology is not used in the Specification as filed. Examiner is now rejecting all claims under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement and is further rejecting claims 25, 26, and 29 under 35 U.S.C. 103 as unpatentable over the combination of Bishop and Trimble and claim 28 under 35 U.S.C. 103 as unpatentable over the combination of Bishop, Trimble, and Barron. Applicant is traversing the rejections.

Traversal of the rejection under 35 U.S.C. 112, first paragraph

MPEP rev 5 discusses the written description requirement in detail in Sections 2163-2163.07. A consequence of the written description requirement with regard to claims that are amended during prosecution is the following:

> While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure. (MPEP 2163(B), MPEP rev. 5, 2100-168)

in haec verba means "in those words", i.e., there is no requirement that the words used in a claim to describe a limitation appear in the Specification. What *is* required is set forth in *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.:*

> ("The disclosure as originally filed does not have to provide in haec verba support for the claimed subject matter at issue."). Identity of that which is described, however, is necessary: "What is claimed by the patent application must be [**15] the same as what is disclosed in the specification . . . ." Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 152 L. Ed. 2d 944, 122 S. Ct. 1831, 1840 (2002); accord Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 U.S.P.Q.2D (BNA) 1961, 1966 (Fed. Cir. 1997) (298 F.3rd 1290,1298, Fed. Cir., 2002)

The newly-added claim limitation which is at issue between Examiner and Applicant appears as follows in claim 25 as amended in the second RCE:

> applying a mold having abutting parting planes to the joint, the applied mold's inner surface completely enclosing the lay-up and the tubes at the joint

The issue between Examiner and Applicant is thus whether the Specification as filed discloses molds having abutting parting planes, i.e., molds in which there is no gap between the mold halves when the mold is closed. Evidence that it does may be found in FIGs. 6-9. In FIG. 6, top view 602 includes line A-A along which the cross section views of 604 and 607 are made; line A-A is at the centerline of the frame's top tube, and as clearly shown there, mold 603 extends to the centerline of the top tube. Thus, when the mold is closed, there is no gap between the two parts of the mold and the mold has abutting parting planes, as set forth in the claim. This is confirmed by top view 703 of FIG. 7, which shows the closed molds on the top tube. Again, there is no gap between the two parts of the closed mold. The top view at the bottom left of FIG. 8 shows the same thing. Further, if the molds had gaps between their parts when closed, silicone 607 applied as shown in FIG. 6 would, when heated, simply ooze out through the gap between the mold halves, rather than compressing the lug's layup. Finally, in contrast to the wrapping technique used in Bishop, the wrapping technique shown at FIG. 9 leaves no material to fill the gap between the two parts of the mold. Without such material, a mold without abutting parting planes cannot apply pressure to the parts of the layup in the

gap between the mold halves. The wrapping technique of FIG. 9 further only makes sense if the molding process applies pressure to the overlaps at 907 and the corresponding overlaps at the bottom of the tube. As just pointed out, a mold with a gap between the two halves of the closed mold cannot apply pressure to these overlaps.

Applicant's attorney would further like to point out that Applicant amended claim 25 on October 23, 2006 to include the language, "the applied mold's inner surface completely enclosing the lay-up and the tubes at the joint". That language is still in claim 25. In the following Office action of 1/10/2007, Examiner raised no issues concerning that language under 35 U.S.C. 112, first paragraph. Indeed, when Applicant's attorney was later discussing claim 25 with Examiner and explaining what the above language meant, it was Examiner who suggested that what was being described was a mold with abutting parting planes. This history of the introduction of the term "abutting parting planes" into the prosecution thus demonstrates that the Specification's support of the claim language, "the applied mold's inner surface completely enclosing the lay-up and the tubes at the joint" is also support for the claim term "abutting parting planes".

In summary, the Specification as filed clearly discloses molds with abutting parting planes; further, the fact that the molds have abutting parting planes is inherent in the Specification as filed's description of the manner in which the molds are used and the manner in which the layup is wrapped. Since the foregoing is the case, Applicant respectfully submits that Examiner's rejection of the claims under 35 U.S.C. 112, 1. par. is without foundation.

The rejections of the claims under 35 U.S.C. 103

The technical problem addressed by Applicant's invention and the references

Applicant's invention and the references are all addressed to the same technical problem: compacting layups inside molds. The particular form of this problem addressed by Applicants' invention is compressing the layups which form the lugs on a bicycle frame made with carbon fiber tubes. The only one of the references which addresses this particular problem is Bishop, which uses a mold that does not have abutting parting

planes. The layup in the lug is compacted by tightening the halves of the mold. The halves can be tightened as necessary because they do not have abutting parting planes, but the absence of abutting parting planes results in flash and the problems concerning flash removal. There is no flash when a mold with abutting parting planes is used, but once the parting planes abut each other, no further compression of the layup in the lug is possible. Compression must be achieved by some element which expands inside the mold.

Examiner's rejection of claims 25, 26, and 29

Examiner rejects these claims as obvious over the combination of Bishop and Trimble. Bishop does not employ a mold with abutting parting planes and exerts pressure on the layup by tightening the halves of the mold; Trimble does employ a mold with parting plane; because the mold cannot by itself compress the layup, Trimble inflates a balloon inside the mold. The inflated balloon compresses the layup against the mold. The difficulty with combining Bishop and Trimble is that Trimble's technique of compressing the layup by inflating a balloon inside the mold is unusable in a frame that has tubes. In such a frame, the pressure of the balloon would be exerted against the insides of the tubes and would not compact the layup. Because Trimble's balloon is unusable in a frame that has tubes, simply replacing Bishop's mold with Trimble's mold will not compact the layup in the lugs of Applicant's frame and the combination of Bishop with Trimble consequently has no reasonable expectation of success. Since that is the case, Examiner has not made his *prima facie* case of obviousness.

Examiner's rejection of claim 28

The rejection of claim 28 depends whether the combination of Bishop and Trimble renders Applicant's invention of claim 25 obvious. As set forth above, the combination has no reasonable expectation of success and consequently, claim 28 is not obvious over the combination of Bishop, Trimble, and Baron.

It should, however, be further pointed out that Baron does not disclose the "mold [] lined with silicone" of claim 28. Baron is at the other end of the molding spectrum from

Applicant, what is being fabricated there is composite structures which are so large that conventional molds are impractical. These molds have inner and outer surfaces that are supported by airbags; silicon rubber sheets which are heated by printed circuits are placed between the inner mold surface and the layup and between the outer mold surface and the layup. When the silicon rubber sheets are heated, they compact the layup. The rubber sheets of Bishop simply cannot be used to line molds having the small dimensions and sharp angles of the molds required for Applicant's claimed technique of "making a lug for a joint that joins carbon fiber tubes in a bicycle frame" and Baron consequently cannot be reasonably taken to disclose the "mold lined with silicon" of Applicant's claim 28. If Baron is nevertheless so taken, the use of Baron's rubber sheets in Applicant's molds has no reasonable expectation of success.

Conclusion

Applicant has traversed Examiner's rejections of his claims under 35 U.S.C. 112, 2. par. and under 35 U.S.C. 103 and believes that he amended his Specification to use the term "silicone" throughout in his Submission filed April 4, 2007. Applicant has thus been fully responsive to Examiner's Office action of 6/14/2007 as required by 37 C.F.R. 1.111(b) and respectfully requests that Examiner continue his examination as provided by 37 C.F.R. 1.111(a). No fees are believed to be required for this response. Should any be, please charge them to deposit account number 501315.

Respectfully submitted,

/Gordon E. Nelson/
Attorney of record,
Gordon E. Nelson
57 Central St., P.O. Box 782
Rowley, MA, 01969,
Registration number 30,093
Voice: (978) 948-7632
Fax: (866)-723-0359
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Date